

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in this application:

LISTING OF CLAIMS:

Claims 1 to 27. (Canceled).

28. (Currently Amended) A converter system, comprising:
at least one supply module configured to provide a unipolar, intermediate circuit voltage;
at least one drive module powerable by the intermediate circuit voltage, each drive module including at least one inverter configured to power at least one electric motor; ~~and~~
at least one buffer module configured to store energy[.];and
a power cable electrically connecting the supply module to the buffer module[.]; ~~and~~;
wherein the buffer module is configured to be supplied with energy for periods of time when the intermediate circuit voltage exceeds a first critical value and an overall regenerative power of a first drive module exceeds a motive power of a second drive module to store the supplied energy, and to supply the stored energy to at least one drive module when a total motive power of the at least one drive module exceeds the regenerative power to power the corresponding electric motor;
wherein the buffer module includes a capacitor and a diode, and a cathode of the diode is directly connected to a negative plate of the capacitor.

29. (Previously Presented) The converter system according to claim 28, wherein the electric motor includes one of (a) a synchronous motor and (b) an asynchronous motor.

30. (Previously Presented) The converter system according to claim 28, wherein the buffer module is configured to be supplied with energy for periods of time and to subsequently release stored energy to at least the drive module.

31. (Previously Presented) The converter system according to claim 28, wherein the buffer module is configured to be supplied with energy for periods of time during regenerative operation of at least one drive module and to subsequently release stored energy to at least the drive module.

32. (Previously Presented) The converter system according to claim 28, wherein at least one supply module includes a rectifier configured to generate a d.c. voltage from an a.c. voltage.

33. (Previously Presented) The converter system according to claim 28, wherein at least one supply module includes a rectifier configured to generate a d.c. voltage from an a.c. voltage from a three-phase a.c. network voltage.

34. (Previously Presented) The converter system according to claim 28, wherein one of:

- (a) at least one supply module includes a feedback unit; and
- (b) the converter system further comprises a feedback unit connected to the intermediate circuit voltage and an a.c. voltage.

35. (Previously Presented) The converter system according to claim 28, wherein one of:

- (a) at least one supply module includes a feedback unit; and
- (b) the converter system further comprises a feedback unit connected to the intermediate circuit voltage and a three-phase a.c. network voltage.

36. (Previously Presented) The converter system according to claim 28, wherein at least one supply module includes an electronic circuit breaker configured to allow passage of and to block, as a function of activation of the electronic circuit breaker, current induced by the intermediate circuit voltage and in a direction of a device connected to an output of the supply module.

37. (Previously Presented) The converter system according to claim 36, wherein a drive circuit of the electronic circuit breaker is connected to a device configured to measure the intermediate circuit voltage.

38. (Currently Amended) The converter system according to claim 28, wherein ~~the buffer module includes a capacitor~~, a capacitance of the capacitor is greater than a sum of capacitance of all other capacitors to which the intermediate circuit voltage is directly applied.

39. (Previously Presented) A converter system, comprising:
at least one supply module configured to provide a unipolar, intermediate circuit voltage;
at least one drive module powerable by the intermediate circuit voltage, each drive module including at least one inverter configured to power at least one electric motor; and
at least one buffer module configured to store energy,
wherein a capacitor of the supply module directly connected to the intermediate circuit voltage and a capacitor included in the buffer module are configured so that during motive operation at a nominal load, with the capacitor of the buffer module directly connected to the intermediate circuit voltage, an a.c. voltage component of the intermediate circuit voltage is less than half an a.c. voltage component with the buffer module removed together with the capacitor of the buffer module.

40. (Previously Presented) The converter system according to claim 28, wherein the buffer module is arranged as a device connected to an output of the supply module, the buffer module including a capacitor having a charging current, wherein the charging current is at least one of:
(a) influenceable by at least an electronic circuit breaker; and
(b) controllable by at least an electronic circuit breaker.

41. (Previously Presented) The converter system according to claim 28, wherein the buffer module includes at least one electrolytic capacitor.

42. (Previously Presented) The converter system according to claim 28, wherein the buffer module and the supply module are manufactured separately, each of the buffer module and the supply module including a respective housing.

43. (Previously Presented) The converter system according to claim 28, wherein the buffer module and the supply module are integrated into a buffer/supply module and arranged in a single housing.

44. (Previously Presented) The converter system according to claim 43, wherein the buffer/supply module includes an electronic circuit breaker configured to allow passage of and block, as a function of activation of the electronic circuit breaker, current induced by the intermediate circuit voltage and in a direction of a device.

45. (Previously Presented) The converter system according to claim 44, wherein a drive circuit of the electronic circuit breaker is connected to a device configured to measure the intermediate circuit voltage.

46. (Previously Presented) The converter system according to claim 44, wherein a drive circuit of the electronic circuit breaker is connected to a device configured to measure an intermediate circuit current.

47. (Previously Presented) The converter system according to claim 28, wherein the buffer module includes an electronic circuit breaker and a corresponding drive circuit at least connected to a device configured to measure voltage, the electronic circuit breaker configured to influence supply of current to a braking resistor.

48. (Currently Amended) A converter system, comprising:
at least one supply module configured to provide a unipolar, intermediate circuit voltage;
at least one drive module powerable by the intermediate circuit voltage, each drive module including at least one inverter configured to power at least one electric motor;
at least one buffer module configured to store energy; and
a bus system configured to electrically connect the supply module, the drive module and the buffer module, the bus system including at least two power cables

configured to carry the intermediate circuit voltage and a power cable configured to electrically connect the supply module to the buffer module,

wherein the buffer module is configured to be supplied with energy for periods of time when the intermediate circuit voltage exceeds a first critical value and an overall regenerative power of a first drive module exceeds a motive power of a second drive module to store the supplied energy, and to supply the stored energy to at least one of the drive modules when a total motive power of the drive modules exceeds the regenerative power to power the corresponding electric motor;

wherein the buffer module includes a capacitor and a diode, and a cathode of the diode is directly connected to a negative plate of the capacitor.

49. (Previously Presented) The converter system according to claim 48, wherein the electric motor includes one of (a) a synchronous motor and (b) an asynchronous motor.

50. (Previously Presented) The converter system according to claim 48, wherein the buffer module, the drive module and the supply module include an interface configured to electrically and mechanically connect to the bus system.

51. (Previously Presented) The converter system according to claim 50, further comprising at least one further module including an interface configured to electrically and mechanically connect to the bus system.

52. (Previously Presented) The converter system according to claim 50, wherein the interface of each of the buffer module, the drive module and the supply module is the same.

53. (Currently Amended) A method for operating a buffer module in a converter system, the converter system including at least one supply module configured to provide a unipolar, intermediate circuit voltage, at least one drive module powerable from the intermediate circuit voltage and including at least one inverter configured to power at least one electric motor, at least one buffer module configured to store energy, and a power cable electrically connecting the supply module to the buffer module, comprising:

measuring the intermediate circuit voltage;

in response to the intermediate circuit voltage exceeding a first critical value, supplying the buffer module with energy when an overall regenerative power of a first drive module exceeds a motive power of a second drive module to store the supplied energy; and

supplying the stored energy by the buffer module to at least one of the drive modules powered by the intermediate circuit voltage when a total motive power of the drive modules exceeds the regenerative power to power the corresponding electric motor;

wherein the buffer module includes a capacitor and a diode, and a cathode of the diode is directly connected to a negative plate of the capacitor.

54. (Previously Presented) The method according to claim 53, further comprising, in response to the intermediate circuit voltage exceeding a second critical value, flowing current through a braking resistor to dissipate energy when a total regenerative power of first drive modules exceeds the motive power of second drive modules.

55. (Previously Presented) The method according to claim 54, wherein the first critical value and the second critical value are equal.

56. (Previously Presented) A converter, comprising:
a rectifier configured to generate an intermediate circuit voltage;
an inverter configured to be powered by the intermediate circuit voltage;
a first capacitor not directly connected to the intermediate circuit voltage configured to be energized by an electronic circuit breaker in a controlled manner as a function of the intermediate circuit voltage, the first capacitor configured to release energy to an intermediate circuit; and

a second capacitor directly connected to the intermediate circuit voltage, a capacitance of the first capacitor and a capacitance of the second capacitor configured so that during motive operation at nominal load, with the capacitor directly connected to the intermediate circuit, an a.c. voltage component of the intermediate circuit voltage is less than half an a.c. voltage component with the first capacitor removed.